

### Claim Amendments

1. (Withdrawn) A silver salt photothermographic dry imaging material comprising:

non-photosensitive aliphatic carboxylic acid silver salts;

a photosensitive emulsion containing photosensitive silver halide grains;

a silver ion reducing agent;

a binder; and

a cyan coloring leuco dye,

wherein a percentage of the photosensitive silver halide grains having a mean particle size of 0.01  $\mu\text{m}$  or more and 0.04  $\mu\text{m}$  or less is 5% or more by mass and 50% or less by mass of total photosensitive silver halide grains by conversion into a silver amount.

2. (Withdrawn) A silver salt photothermographic dry imaging material comprising:

non-photosensitive aliphatic carboxylic acid silver salts;

a photosensitive emulsion containing photosensitive silver halide grains;

a silver ion reducing agent;

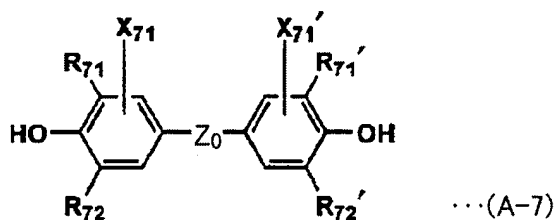
a binder; and

a cyan coloring leuco dye,

wherein the non-photosensitive aliphatic carboxylic acid silver salts are manufactured by making a silver ion-containing solution using water or a mixture of water and an organic solvent as a solvent react with an alkali metal salt of aliphatic carboxylic acid-containing solution using water, an organic solvent or a mixture of water and the organic solvent as a solvent under existence of tertiary alcohol.

3. (Withdrawn) The material of claim 1, wherein the non-photosensitive aliphatic carboxylic acid silver salts are manufactured by making a silver ion-containing solution using water or a mixture of water and an organic solvent as a solvent react with an alkali metal salt of aliphatic carboxylic acid-containing solution using water, an organic solvent or a mixture of water and the organic solvent as a solvent under existence of tertiary alcohol.

4. (Currently Amended) A silver salt  
 photothermographic dry imaging material comprising:  
 non-photosensitive aliphatic carboxylic acid silver  
 salts;  
 a photosensitive emulsion containing photosensitive  
 silver halide grains;  
 a silver ion reducing agent;  
 a binder; ~~and~~  
 a cyan coloring leuco dye, and  
a yellow coloring leuco dye which is represented by  
the following formula (A-7),




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wherein Z<sub>0</sub> represents - S - group or -C (R<sub>73</sub>) (R<sub>73</sub>') -  
group, and R<sub>73</sub> and R<sub>73</sub>' each represent a hydrogen atom or a  
substituent, and R<sub>71</sub>, R<sub>72</sub>, R<sub>71</sub>' and R<sub>72</sub>' each represent a  
substituent, and

wherein the binder contains latex of polymer with an  
 equilibrium water content of 2% or less by mass at 25°C and  
 at 60% RH.

5. (Withdrawn) The material of claim 1, wherein the binder contains latex of polymer with an equilibrium water content of 2% or less by mass at 25°C and at 60% RH.

6. (Withdrawn) The material of claim 2, wherein the binder contains latex of polymer with an equilibrium water content of 2% or less by mass at 25°C and at 60% RH.

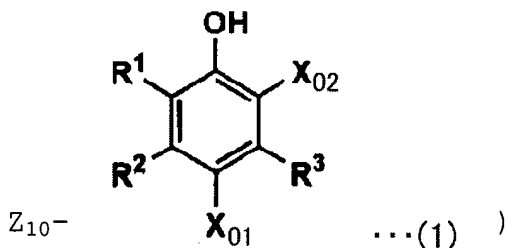
7. (Withdrawn and currently amended) A silver salt photothermographic dry imaging material comprising:

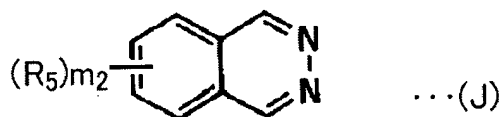
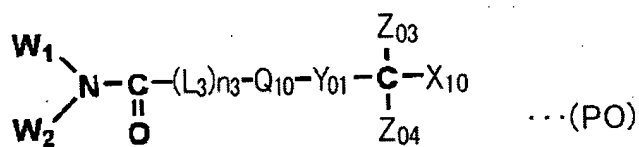
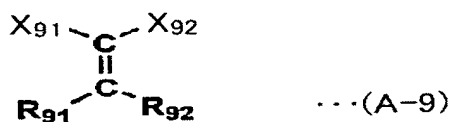
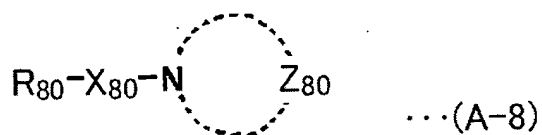
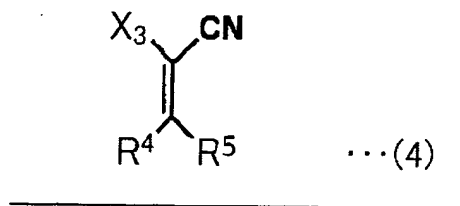
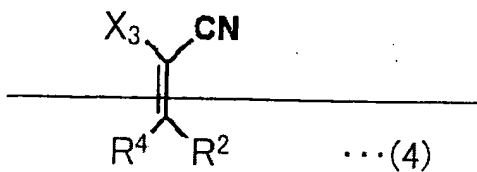
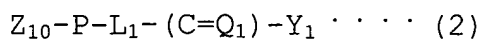
a support;

a photosensitive layer containing non-photosensitive aliphatic carboxylic acid silver salts, photosensitive silver halide grains, a silver ion reducing agent and a binder, the photosensitive layer being provided on the support;

a cyan coloring leuco dye; and

at least one compound selected from the group of compounds represented by the following Formulas (1) to (4), (A-8), (A-9), (PO) and (J),





wherein in the Formula (1), each of the  $X_{01}$  and  $X_{02}$  represents a hydrogen atom, a halogen atom, an alkyl group,

a cycloalkyl group, an aryl group, a heterocyclic group, a -COOH or a salt thereof, or an aryl group or alkyl group which is bonded via a bivalent linkage group, at least one of the  $X_{01}$  and  $X_{02}$  being -COOH or a salt thereof; and each of the  $R^1$ ,  $R^2$  and  $R^3$  represents a hydrogen atom, a halogen atom, an alkyl group, a cycloalkyl group, an alkenyl group, an aryl group, a heterocyclic group, or an aryl group or alkyl group which is bonded via a bivalent linkage group;

in the Formula (2), the P represents an oxygen atom, a sulfur atom or an NH group; the  $Q_1$  represents an oxygen atom or a sulfur atom; the  $Y_1$  represents an OH group, an  $OM_1$  group, an SH group, an  $SM_1$  group or an  $NH_2$  group, the  $M_1$  representing a counter ion; the  $L_1$  represents a bivalent linkage group; and the  $Z_{10}$  represents an alkyl group, an aryl group or a heterocyclic group;

in the Formula (3), the  $Z_{20}$  represents an aliphatic hydrocarbon group, an aryl group or a heterocyclic group; and the  $M_2$  represents a metal atom or an organic cation;

in the Formula (4), the  $R^4$  represents a hydroxyl group or a metallic salt of the hydroxyl group; the  $R^5$  represents an alkyl group or an aryl group; and the  $X_3$  represents an electron withdrawing group, or the  $R^5$  and the  $X_3$  are capable of forming a ring including an electron withdrawing group;

in the Formula (A-8), the  $Z_{80}$  represents an atomic group required for forming a nitrogen-containing heterocycle; the  $X_{80}$  represents an  $SO_2$  group or an  $OSO_2$  group; and the  $R_{80}$  represents an alkyl group, an alkenyl group, an alkynyl group, an aryl group, an alkaryl group, an aralkyl group or a heterocyclic group;

in the Formula (A-9), the  $R_{91}$  represents a hydroxyl group or a metallic salt of the hydroxyl group; the  $R_{92}$  represents an alkyl group, an alkenyl group, an alkynyl group, an aryl group, an alkaryl group, an aralkyl group or a heterocyclic group; and each of the  $X_{91}$  and  $X_{92}$  represents an electron withdrawing group;

in the Formula (PO), each of the  $Z_{03}$  and  $Z_{04}$  independently represents a halogen atom; the  $X_{10}$  represents a hydrogen atom or an electron withdrawing group; the  $Y_{01}$  represents a  $-CO-$  group or an  $SO_2-$  group; the  $Q_{10}$  represents an arylene group or a bivalent heterocyclic group; the  $L_3$  represents a linkage group; each of the  $W_1$  and  $W_2$  independently represents a hydrogen atom, an alkyl group, an aryl group or a heterocyclic group; and the  $n_3$  represents 0 or 1; and

in the Formula (J), the  $R_5$  represents a monovalent substituent except a hydrogen atom; the  $m_2$  represents an integer of 1 to 6; and the  $(R_5)_{m_2}$  indicates that 1 to 6  $R_5$ s are independently exist on a phthalazine ring.

8. (Withdrawn) The material of claim 7, wherein the compound is the compound represented by the Formula (1).

9. (Withdrawn) The material of claim 7, wherein the compound is the compound represented by the Formula (2).

10. (Withdrawn) The material of claim 7, wherein the compound is the compound represented by the Formula (3).

11. (Withdrawn) The material of claim 7, wherein the compound is the compound represented by the Formula (4).

12. (Withdrawn) The material of claim 7, wherein the compound is the compound represented by the Formula (A-8).

13. (Withdrawn) The material of claim 7, wherein the compound is the compound represented by the Formula (A-9).



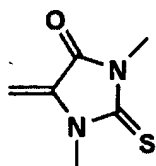
14. (Withdrawn) The material of claim 7, wherein the compound is the compound represented by the Formula (PO).

15. (Withdrawn) The material of claim 7, wherein the compound is the compound represented by the Formula (J).

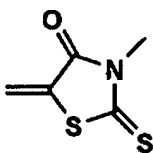
16. (Withdrawn) The material claim 7, wherein the photosensitive silver halide grains are chemically sensitized.

17. (Withdrawn) The material of claim 7, wherein chalcogen sensitization is performed to the photosensitive silver halide grains with at least one sulfur sensitizer represented by the following Formulas (5-1) to (5-3) or a sulfur sensitizer having a nucleus represented by the

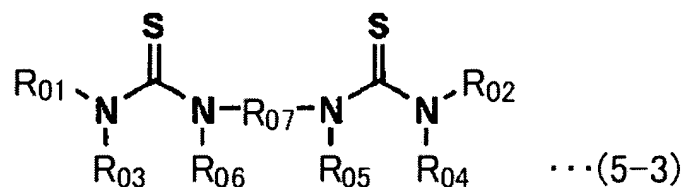
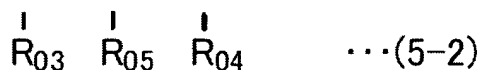
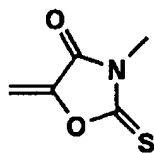
(5-4)



(5-5)



(5-6)



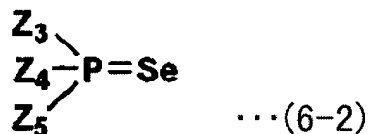
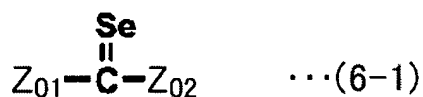
following Formula (5-4), (5-5) or (5-6),

wherein in the Formula (5-1), each of the  $R_{01}$ ,  $R_{02}$ ,  $R_{03}$  and  $R_{04}$  independently represents a hydrogen atom, an alkyl group, an aryl group, a cycloalkyl group, an alkenyl group, an alkynyl group or a heterocyclic group;

in the Formula (5-2), each of the  $R_{01}$ ,  $R_{02}$ ,  $R_{03}$ ,  $R_{04}$  and  $R_{05}$  independently represents a hydrogen atom, an alkyl group, an aryl group, a cycloalkyl group, an alkenyl group, an alkynyl group or a heterocyclic group; and

in the Formula (5-3), each of the  $R_{01}$ ,  $R_{02}$ ,  $R_{03}$ ,  $R_{04}$ ,  $R_{05}$  and  $R_{06}$  independently represents a hydrogen atom, an alkyl group, an aryl group, a cycloalkyl group, an alkenyl group, an alkynyl group or a heterocyclic group; and the  $R_{07}$  represents a bivalent linkage group.

18. (Withdrawn) The material of claim 7, wherein chalcogen sensitization is performed to the photosensitive silver halide grains with at least one selenium sensitizer represented by the following Formulas (6-1) and (6-2),

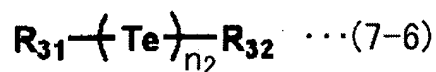
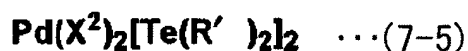
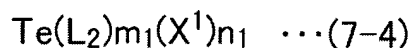
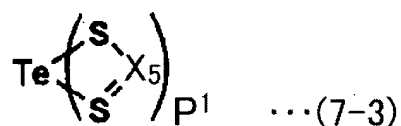
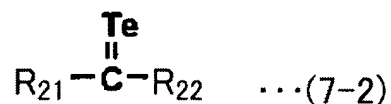
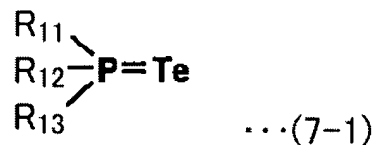


wherein in the Formula (6-1), each of the  $Z_{01}$  and  $Z_{02}$  represents an alkyl group, an alkenyl group, an aryl group,

a heterocyclic group, an  $-NA_1(A_2)$ , an  $-OA_3$  or an  $-SA_4$ , each of the  $A_1$ ,  $A_2$ ,  $A_3$  and  $A_4$  representing an alkyl group, an aryl group or a heterocyclic group; and

in the Formula (6-2), each of the  $Z_3$ ,  $Z_4$  and  $Z_5$  represents an aliphatic group, an aromatic group, a heterocyclic group, an  $-OA_7$ , an  $-NA_8(A_9)$ , an  $-SA_{10}$ , a  $-SeA_{11}$ , a  $Y_2$  or a hydrogen atom, each of the  $A_7$ ,  $A_{10}$  and  $A_{11}$  representing an aliphatic group, an aromatic group, a heterocyclic group, a hydrogen atom or a cation, each of the  $A_8$  and  $A_9$  representing an aliphatic group, an aromatic group, a heterocyclic group or a hydrogen atom, and the  $Y_2$  representing a halogen atom.

19. (Withdrawn) The material claim 7, wherein chalcogen sensitization is performed to the photosensitive silver halide grains with at least one tellurium sensitizer represented by the following Formulas (7-1) to (7-6),



wherein in the Formula (7-1), each of the  $R_{11}$ ,  $R_{12}$  and  $R_{13}$  represents a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group, an  $OR_{14}$ , an  $NR_{15}(R_{16})$ , an  $SR_{17}$ , an  $OSiR_{18}(R_{19})(R_{20})$  or an  $X_4$ , each of the  $R_{14}$  and  $R_{17}$  representing a hydrogen atom, an aliphatic group, an

aromatic group, a heterocyclic group or a cation, each of the  $R_{15}$  and  $R_{16}$  representing a hydrogen atom, an aliphatic group, and aromatic group or a heterocyclic group, each of the  $R_{18}$ ,  $R_{19}$  and  $R_{20}$  representing an aliphatic group, and the  $X_4$  representing a halogen atom;

in the Formula (7-2), the  $R_{21}$  represents an aliphatic group, an aromatic group, a heterocyclic group or an - $NR_{23}(R_{24})$  and the  $R_{22}$  represents an - $NR_{25}(R_{26})$ , an - $N(R_{27})N(R_{28})R_{29}$  or an - $OR_{30}$ , each of the  $R_{23}$ ,  $R_{24}$ ,  $R_{25}$ ,  $R_{26}$ ,  $R_{27}$ ,  $R_{28}$ ,  $R_{29}$  and  $R_{30}$  representing a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group or an acyl group;

in the Formula (7-3), the  $X_5$ s represent the same or different  $COR$ ,  $CSR$ ,  $CN(R)_2$ ,  $CR$ ,  $P(R)_2$  or  $P(OR)_2$  groups (the  $R$  is an alkyl group with a carbon number of 1 to 20, an alkenyl group with a carbon number of 2 to 20, a carbocyclic or heterocyclic aryl group with a carbon number of 6 to 10 in a monocyclic system or a condensed cyclic system), each of the groups being bonded with two sulfur atoms via the carbon atom or the phosphorus atom in the groups; and the  $p_1$  is 2 or 4;

in the Formula (7-4), the  $L_2$ s represent the same or different ligands inducted from a neutral Lewis base; the  $X^1$ s represent the same or different halogen atoms,  $OCN$ ,  $SCN$ ,

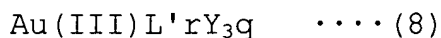
$S_2CN(R)_2$ ,  $S_2COR$ ,  $S_2CSRS_2P(OR)_2$ ,  $S_2P(R)_2$ ,  $SeCN$ ,  $TeCN$ ,  $CN$ ,  $SR$ ,  $OR$ ,  $N_3$ , alkyl groups, aryl groups or  $O_2CR$  groups (the  $R$  is an alkyl group with a carbon number of 1 to 20, an alkenyl group with a carbon number of 2 to 20, a carbocyclic or heterocyclic aryl group with a carbon number of 6 to 10 in a monocyclic system or a condensed cyclic system); the  $m_1$  is 0, 1, 2 or 4; the  $n_1$  is 2 or 4; when the  $m_1$  is 0 or 2, the  $n_1$  is 2 or 4, and when the  $m_1$  is 1 or 4, the  $n_1$  is 2;

in the Formula (7-5), the  $X^2$  represents a halogen atom,  $OCN$ ,  $SCN$ ,  $S_2CN(R)_2$ ,  $S_2COR$ ,  $S_2CSRS_2P(OR)_2$ ,  $S_2P(R)_2$ ,  $SeCN$ ,  $TeCN$ ,  $CN$ ,  $SR$ ,  $OR$ ,  $N_3$ , alkyl group, aryl group or  $O_2CR$  group, the  $R$  being an alkyl group with a carbon number of 1 to 20, an alkenyl group with a carbon number of 2 to 20, a carbocyclic or heterocyclic aryl group with a carbon number of 6 to 10 in a monocyclic system or a condensed cyclic system; and the  $R'$  represents an alkyl or aryl group; and

in the Formula (7-6), each of the  $R_{31}$  and  $R_{32}$  represents an aliphatic group, an aromatic group, a heterocyclic group or a  $-(C=Y')R_{33}$ ; the  $R_{33}$  represents a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group, an  $NR_{34}(R_{35})$ , an  $OR_{36}$  or an  $SR_{37}$ ; the  $Y'$  represents an oxygen atom, a sulfur atom or an  $NR_{38}$ ; each of the  $R_{34}$ ,  $R_{35}$ ,  $R_{36}$ ,  $R_{37}$  and  $R_{38}$  represents a hydrogen atom, an aliphatic group, an

aromatic group or a heterocyclic group; and the  $n_2$  represents 1 or 2.

20. (Withdrawn) The material of claim 7, wherein the photosensitive silver halide grains are chemically sensitized with a gold sensitizer represented by the following Formula (8),



wherein the  $\text{L}'$  represents the same or different ligands, each ligand including at least one hetero atom capable of forming a bond with gold; the  $\text{Y}_3$  is an anion; the  $r$  is an integer of 1 to 8; and the  $q$  is an integer of 0 to 3.

21. (Withdrawn) The material of claim 1, wherein coefficient of determination  $R^2$  of a linear regression straight line is 0.998 or more and 1.000 or less, the  $R^2$  being made by measuring each density at optical density of 0.5, 1.0, 1.5 and minimum optical density on a silver image obtained after thermal development processing of the silver salt photothermographic dry imaging material and by disposing  $u^*$  and  $v^*$  at the above each optical density on two dimensional coordinates where a horizontal and vertical axes in CIE 1976 ( $L^*u^*v^*$ ) color space are made  $u^*$  and  $v^*$ ,



respectively; and  $v^*$  value of an intersection point with the vertical axis of the linear regression straight line is -5 or more and 5 or less; and a slope ( $v^*/u^*$ ) is 0.7 or more and 2.5 or less.

22. (Withdrawn) The material of claim 2, wherein coefficient of determination  $R^2$  of a linear regression straight line is 0.998 or more and 1.000 or less, the  $R^2$  being made by measuring each density at optical density of 0.5, 1.0, 1.5 and minimum optical density on a silver image obtained after thermal development processing of the silver salt photothermographic dry imaging material and by disposing  $u^*$  and  $v^*$  at the above each optical density on two dimensional coordinates where a horizontal and vertical axes in CIE 1976 ( $L^*u^*v^*$ ) color space are made  $u^*$  and  $v^*$ , respectively; and  $v^*$  value of an intersection point with the vertical axis of the linear regression straight line is -5 or more and 5 or less; and a slope ( $v^*/u^*$ ) is 0.7 or more and 2.5 or less.

23. (Withdrawn) The material of claim 4, wherein coefficient of determination  $R^2$  of a linear regression straight line is 0.998 or more and 1.000 or less, the  $R^2$  being made by measuring each density at optical density of

0.5, 1.0, 1.5 and minimum optical density on a silver image obtained after thermal development processing of the silver salt photothermographic dry imaging material and by disposing  $u^*$  and  $v^*$  at the above each optical density on two dimensional coordinates where a horizontal and vertical axes in CIE 1976 ( $L^*u^*v^*$ ) color space are made  $u^*$  and  $v^*$ , respectively; and  $v^*$  value of an intersection point with the vertical axis of the linear regression straight line is -5 or more and 5 or less; and a slope ( $v^*/u^*$ ) is 0.7 or more and 2.5 or less.

24. (Withdrawn) The material of claim 7, wherein coefficient of determination  $R^2$  of a linear regression straight line is 0.998 or more and 1.000 or less, the  $R^2$  being made by measuring each density at optical density of 0.5, 1.0, 1.5 and minimum optical density on a silver image obtained after thermal development processing of the silver salt photothermographic dry imaging material and by disposing  $u^*$  and  $v^*$  at the above each optical density on two dimensional coordinates where a horizontal and vertical axes in CIE 1976 ( $L^*u^*v^*$ ) color space are made  $u^*$  and  $v^*$ , respectively; and  $v^*$  value of an intersection point with the vertical axis of the linear regression straight line is

-5 or more and 5 or less; and a slope ( $v^*/u^*$ ) is 0.7 or more and 2.5 or less.

25. (Withdrawn) A method for recording an image on the material of claim 1, comprising:

performing image exposure according to a vertical multiple mode laser scanning exposure apparatus.

26. (Withdrawn) A method for recording an image on the material of claim 2, comprising:

performing image exposure according to a vertical multiple mode laser scanning exposure apparatus.

27. (Original) A method for recording an image on the material of claim 4, comprising:

performing image exposure according to a vertical multiple mode laser scanning exposure apparatus.

28. (Withdrawn) A method for recording an image on the material of claim 7, comprising:

performing image exposure according to a vertical multiple mode laser scanning exposure apparatus.

29. (Withdrawn) A method for forming an image after performing image recording on the material of claim 1, comprising:

thermal developing in a state containing 40 to 4500 ppm of organic solvent.

30. (Withdrawn) A method for forming an image after performing image recording on the material of claim 2, comprising:

thermal developing in a state containing 40 to 4500 ppm of organic solvent.

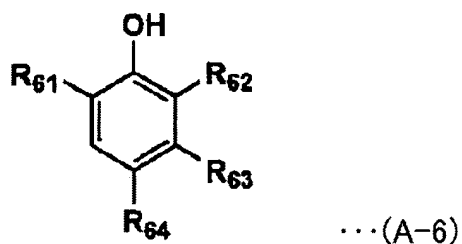
31. (Original) A method for forming an image after performing image recording on the material of claim 4, comprising:

thermal developing in a state containing 40 to 4500 ppm of organic solvent.

32. (Withdrawn) A method for forming an image after performing image recording on the material of claim 7, comprising:

thermal developing in a state containing 40 to 4500 ppm of organic solvent.

33. (Withdrawn) The material of claim 7, comprising a compound represented by the following Formula (A-6) in a side of a face having the photosensitive layer,



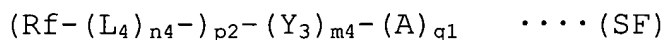
wherein the  $R_{61}$  represents a substituted or non-substituted alkyl group; the  $R_{62}$  represents a hydrogen atom, a substituted or non-substituted alkyl group or a substituted or non-substituted acylamino group, the  $R_{61}$  and the  $R_{62}$  being substantially free from 2-hydroxyphenylmethyl group; the  $R_{63}$  represents a hydrogen atom or a substituted or non-substituted alkyl group; and the  $R_{64}$  represents a substituent capable of being substituted on a benzene ring.

34. (Withdrawn) The material of claim 7, wherein an average gradation is from 2.0 to 4.0 at an optical density of 0.25 to 2.5 in diffused light on a characteristic curve shown on rectangular coordinates where unit lengths of diffuse density (Y axis) and common logarithm exposure

amount (X axis) are equal on an image obtained by thermally developing at a development temperature of 123°C for a development time of 13.5 sec.

35. (Withdrawn) The material of claim 7, wherein a glass transition temperature Tg of the binder is from 70°C to 150°C.

36. (Withdrawn) The material of claim 7, comprising a compound represented by the following Formula (SF),



wherein the Rf represents a substituent containing a fluorine atom; the L<sub>4</sub> represents a bivalent linkage group substantially free from a fluorine atom; the Y<sub>3</sub> represents a bivalent to quadrivalent linkage group substantially free from a fluorine atom; the A represents an anion group or a base thereof; each of the n<sub>4</sub> and m<sub>4</sub> represents an integer of 0 or 1; the p<sub>2</sub> represents an integer of 1 to 3; the q<sub>1</sub> represents an integer of 1 to 3; and when the q<sub>1</sub> is 1, the n<sub>4</sub> and m<sub>4</sub> are not simultaneously 0.

37. (Withdrawn) The material of claim 7, comprising at least one silver saving agent selected from a vinyl compound, a hydrazine derivative, a silane compound and a quaternary onium salt in a side of a face having the photosensitive layer.

38. (Withdrawn) The material of claim 7, wherein the silver halide grains are chemically sensitized with a chalcogen compound.

39. (Withdrawn) The material of claim 7, wherein an amount of silver contained in the photosensitive layer is from 0.3 to 1.5 g/m<sup>2</sup>.